

**REMARKS**

Claims 1-7 are currently pending. Claim 7 has been withdrawn from consideration pursuant to a restriction requirement, which Applicants have traversed. Claims 1-6 have been examined.

Claims 1-6 were rejected under 35 U.S.C. §§ 102(b) or 103(a) over U.S. Pat. No. 5,705,120 ("Ueno"). Applicants respectfully traverse.

To better define the invention and not for reasons related to patentability, claims 1-6 have been amended by adding a limitation "wherein said nanotubes have a diameter less than about 100 nanometers." (specification, p. 11, lines 6-7).

A. Applicants' Claims Are Novel Over Ueno

For a claim to be anticipated, "the identical invention must be shown in as complete detail as is contained in the claim" and "the elements must be arranged as required by the claim." MPEP § 2131. Thus, Applicants respectfully submit that Ueno fails to anticipate Applicants' original pending claims since Ueno fails to specifically teach Applicants' claimed process. For example, Ueno only discloses the use of graphite fiber (col. 2, lines 49- col. 3, line 15), which is completely different from Applicants' carbon nanotubes that possess far superior strength and conductivity (specification, p. 11, line 6 - p. 14, line 11). Applicants' claims have also been amended to better define the invention to using carbon nanotubes with diameters less than about 100 nm, which is more than 10 times smaller than the graphite fibers used by Ueno.

Ueno further fails to specifically teach the step of mixing carbon nanotubes with a polymer emulsion containing, *inter alia*, polyvinylidene fluoride, as claimed by Applicants. Rather, Ueno broadly teaches the general use of emulsion for the purpose of sizing a graphite fiber with a laundry list of halogen-containing compounds. Col. 7, line 33- col. 8, line 34. No disclosure is made of a specific emulsion containing polyvinylidene fluoride or of using a

polymer emulsion to prepare the electrically conductive composite of the Applicants' claims. Thus, Applicants' claims are novel over Ueno and withdrawal of this rejection is respectfully requested.

B. Applicants Claims Are NonObvious Over Ueno

To establish a *prima facie* case of obviousness, the prior art must suggest the desirability of the claimed invention. MPEP § 2143.01. In other words, there must be some teaching or suggestion in the art (and not by hindsight gleaned from Applicants' specification) to motivate one of ordinary skill in the art to modify Ueno to obtain Applicants' claims invention. MPEP § 2143.01.

As discussed above in Section A, Ueno fails to disclose a number of limitations in Applicants' claims, such as carbon nanotubes, emulsion containing polyvinylidene fluorine, and use of such emulsion to form an electrically conductive composite. There is further no suggestion in Ueno which would motivate one of ordinary skill in the art to modify Ueno to practice the process claimed by Applicants.

For example, Ueno teaches that its preferred fluororesin is polytetrafluoroethylene and the preferred reinforcement material is graphite fiber. Col. 2, lines 46-54. No mention is made of Applicants' carbon nanotubes. Ueno further teaches that the goals of its invention are to obtain high mechanical strength and sliding characteristics. Col. 1, lines 9-13 and lines 46 -67. No mention is made of the use of Ueno's composite for improving electrical conductivity. Additionally, Ueno teaches the use of compression-molding, melt extrusion or injection molding to form his fluororesin composite. Col. 1, lines 10-24; col. 11, lines 33-48. No mention is made of using a polymer emulsion to form the composite - Ueno uses emulsions only for "sizing" the graphite fiber. Col. 7, line 33- col. 8, line 34. Therefore, there is no suggestion in Ueno which

would motivate one of ordinary skill in the art to modify Ueno's ingredients and process to obtain Applicants' claimed process.

As such, Applicants' claims are patentable over Ueno and withdrawal of this rejection is respectfully requested.

In conclusion, Applicants submit that the pending claims are in condition for allowance and a notice to that effect is respectfully requested.

If there are any additional fees, please charge them to our firm Deposit Account No. 50-0540.

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Respectfully submitted,

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